## (19) World Intellectual Property Organization

International Bureau





(43) International Publication Date 14 July 2005 (14.07.2005)

**PCT** 

## (10) International Publication Number $WO\ 2005/063844\ A1$

(51) International Patent Classification<sup>7</sup>: C08G 63/40

(21) International Application Number:

PCT/KR2004/003551

(22) International Filing Date:

31 December 2004 (31.12.2004)

(25) Filing Language:

Korean

(26) Publication Language:

English

(30) Priority Data: 10-2003-0101621

31 December 2003 (31.12.2003) KR

- (71) Applicant (for all designated States except US): SK CHEMICALS CO., LTD. [KR/KR]; 600, Jungja 1-dong, Changan-ku, Suwon-si, Kyonggi-do 440-745 (KR).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): HWANG, Jeoung-Jun [KR/KR]; Woosung APT. 308-807, Beomgye-dong, Dongan-ku, Anyang-si, Kyonggi-do 431-085 (KR). KIM, Jong-Ryang [KR/KR]; LG Village APT. 201-1901, Geumgok-dong, Gwonseon-ku, Suwon-si, Kyonggi-do 441-704 (KR).
- (74) Agent: LEE, Sang-Hun; Hannuri Patent and Law Office, Suite 303, Back-Ak Bldg., 828-53 Yoksam-dong, Kangnam-ku, Seoul 135-080 (KR).
- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE,

KG, KP, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

## **Declaration under Rule 4.17:**

as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii)) for the following designations AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW, ARIPO patent (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD. TG

## Published:

with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: METHOD FOR PREPARING POLYESTER COPOLYMER CONTAINING AMIDE LINK

(57) Abstract: A method for preparing polyester copolymer containing amide link, which can reduce the phase separation of a polyester component and an amide component by improving the compatibility therebetween is disclosed. The method for preparing polyester copolymer comprises the step of polymerizing macrocyclic polyester oligomer and cyclic amide monomer. Wherein, it is preferable that the macrocyclic polyester oligomer is obtained by reacting bis(hydroxyalkyl)ester with dicarboxylic acid chloride in the presence of unhindered amine, and the bis(hydroxyalkyl)ester is obtained by. depolymerizing polyester. resin. Also, lit is preferable that the cyclic amide monomer is E-caprolactam having a cyclic structure and having 2 or more carbon atoms, and the amount of the macrocyclic polyester oligomer is 5 to 99% by weight with respect to total amount of the macrocyclic polyester oligomer and the cyclic amide monomer.

